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Abstract

In this paper, we connect two well established theories, the Fibonacci numbers and the Jordan algebras. We give a series of matrices, from literature, used to obtain recurrence relations of second-order and polynomial sequences. We also give some identities known in special Jordan Algebras. The matrices play a bridge role between both theories. The mentioned matrices connect both areas of mathematics, special Jordan algebras and recurrence relations, to obtain new identities and classic identities in Fibonacci numbers, Lucas numbers, Pell numbers, binomial transform, tribonacci numbers, and polynomial sequences among others. The list of identities in this paper contains just a few examples of many that the reader can find using this technique.